

I claim:

1. A method for producing a ring traveler (10) for ring spinning or ring twisting machines, which has a core (20) consisting of iron material, and comprising the step of subjecting at least a portion of the core (20) to a nitriding treatment during which heat energy and a nitriding agent as active medium are supplied to the core (20).
2. The method as claimed in claim 1, wherein the core (20) is heated to a temperature in the range of 450°C - 600°C.
3. The method as claimed in claim 2, wherein the core (20) is maintained in said temperature range for 3 - 60 hours.
4. The method as claimed in claim 1, 2 or 3, wherein the nitriding agent is supplied in the form of a gas comprising  $\text{NH}_3$  and  $\text{N}_2$  components, a nitrogen-enriched liquid or a nitrogen-enriched plasma.

5. The method as claimed in claim 1, wherein the active medium includes components selected from the group consisting of sulfur components and carbon components.

6. The method as claimed in claim 1, wherein method includes the step of polishing the core (20) before the nitriding treatment.

7. The method as claimed in claim 1, wherein method includes the step of polishing the core (20) after the nitriding treatment.

8. The method as claimed in claim 1, wherein method includes the step of oxidizing the core (20) before the nitriding treatment.

9. The method as claimed in claim 1, wherein method includes the step of oxidizing the core (20) after the nitriding treatment.

10. A ring traveler (10) for ring spinning or ring twisting machines, comprising an iron core (20) wherein at least one mechanically stressed part of the core (20) has a nitrided edge layer (23, 24).

11. A ring traveler (10) according to claim 10, wherein the mechanically stressed part of the core (20) comprises a running surface for the thread.

12. A ring traveler (10) according to claim 10, wherein the mechanically stressed part of the core (20) comprises a surface running on the ring of the spinning or twisting machine.

13. A ring traveler (10) as claimed in claim 10, wherein the edge layer (23, 24) includes a connecting layer (23).

14. A ring traveler (10) as claimed in claim 10, wherein the edge layer (23, 24) includes a connecting layer (23) and a diffusion layer (24).

15. A ring traveler (10) as claimed in claim 10, wherein the edge layer (23, 24) includes a diffusion layer (24).

16. The ring traveler (10) as claimed in claim 13, wherein the connecting layer (23) has a thickness of  $0.1\mu\text{m}$  -  $30\mu\text{m}$ .

17. The ring traveler (10) as claimed in claim 14, wherein the diffusion layer (24) has a thickness of  $1\mu\text{m}$  -  $2000\mu\text{m}$ .

18. The ring traveler (10) as claimed in claim 14, wherein the connecting layer (23) has a thickness of  $8\mu\text{m}$  -  $12\mu\text{m}$  and the diffusion layer (24) has a thickness of  $100\mu\text{m}$  -  $200\mu\text{m}$ .

19. The ring traveler (10) as claimed in claim 13 wherein the connecting layer (23) contains components selected from the group consisting of sulfur and carbon.

20. The ring traveler (10) as claimed in claim 10, wherein the surface (22) of the core (20) is polished and/or is provided with an oxide layer.

21. The ring traveler (10) as claimed in claim 20 wherein the surface (22) of the core (20) is black, blue, yellow or white.

22. The ring traveler (10) as claimed in claim 10, wherein the basic material (21) of the core (20) is nitriding steel.

23. The ring traveler (10) as claimed in claim 13, wherein the basic material (21) of the core (20) contains a nitride-forming element selected from the group consisting of chromium, vanadium, aluminum, molybdenum, manganese and nickel.